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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/707,420	12/12/2003	Thomas B. Beddard	19441-0063	1419

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EXAMINER

VERDIER, CHRISTOPHER M

ART UNIT	PAPER NUMBER
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3745

DATE MAILED: 11/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/707,420

Applicant(s)

BEDDARD ET AL.

Examiner

Christopher Verdier

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 15 is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 December 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 12-12-03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

Drawings

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: "P". Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: "5-5" (figure 4). Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the

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applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

The disclosure is objected to because of the following informalities: Appropriate correction is required.

On page 1, line 1, "Description" is superfluous and should be deleted.

In paragraph 9, lines 6-11, "The first base portion and the second base portion may include a width along the direction of the seal rail from about 0.5 to about 0.52 inches (about 12.7 to about 13.21 millimeters) to about 0.3 to about 0.32 inches (about 7.62 to about 8.19 millimeters)" is unclear, as to which of the first base portion and the second portion has which range of values.

In paragraph 19, line 6, "vain" should be changed to -- vane --.

In paragraph 26, line 8, --) -- should be inserted after "130".

In paragraph 26, lines 6-12 are unclear for the same reason that paragraph 9, lines 6-11 are unclear.

In paragraph 27, line 1, "OLE_LINK1" is ambiguous.

In paragraph 27, line 2, "9FA+e" is ambiguous.

In paragraph 27, line 3 "YorkOLE_LINK1" is ambiguous.

In paragraph 28, line 2, "7FA+e" is ambiguous.

In paragraph 31, line 8, "(" should be deleted.

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In paragraph 31, lines 9-11, "from about 0.5 to about 0.52 inches (about 12.7 to about 13.21 millimeters) to about 0.3 to about 0.32 inches (about 7.62 to about 8.19 millimeters)" is unclear, as to which base portion of the cutter teeth has which range of values.

Claim Objections

Claims 7-12 and 14 are objected to because of the following informalities: Appropriate correction is required.

Claims 7-12 and 14 contain multiple instances of units of length in parentheses; see claim 7, lines 2-3 which recite "(about 101.6 to about 107.95 millimeters)", for example. The parentheses and limitations therein should be removed in all of the above claim instances, because they are duplicative of the inch units of length recited in the claims, and because claim limitations in parentheses are not accorded any patentable weight. If Applicant desires to have units of length in millimeters recited in the claims, then it is respectfully suggested that Applicant may wish to add additional dependent claims reciting units of length in millimeters.

In claim 11, line 3, "of about" should be changed to -- for about --.

In claim 11, line 6, "about" should be changed to -- for about --.

Applicant is advised that should claim 3 be found allowable, claim 13 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application

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are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 12 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 12, lines 1-6, "wherein said first base portion and said second base portion comprise a width along the direction of the seal rail from about 0.5 to about 0.52 inches (about 12.7 to about 13.2 millimeters) to about 0.30 to about 0.32 inches (about 7.62 to about 8.19 millimeters)" is unclear, as to which of the first base portion and the second portion has which range of values.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this

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subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-4, 6, and 13 are rejected under 35 U.S.C. 102(e) as being anticipated by Urban 6,805,530 (figure 3). Note the tip shroud 40 for use with a turbine bucket 42, comprising a seal rail (unnumbered, similar to rail 24 in figure 2), with the seal rail having a middle portion, a first cutter tooth 44 (the righthand cutter tooth) and a second cutter tooth 44 (the lefthand cutter tooth) positioned about the middle portion of the seal rail, with the first and second cutter teeth comprising an offset position about the middle portion of the seal rail, with the cutter teeth inherently having a top portion and a base portion.

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Claims 1 and 4-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Guy 3,377,050 (figure 2). Note the tip shroud 11 for use with a turbine bucket 12, comprising a seal rail (unnumbered, the base of element 14 and having passage 16 therein), with the seal rail having a middle portion, and a cutter tooth 14 positioned about the middle portion of the seal

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rail, with the cutter tooth inherently having a top portion and a base portion, and an unnumbered built up area adjacent the base portion.

Claims 1 and 4 are rejected under 35 U.S.C. 102(e) as being anticipated by Beeck 2004/0012151 (figures 5c-5d). Note the tip shroud 5 for use with a turbine bucket 6, comprising a seal rail 1, with the seal rail having a middle portion, and a cutter tooth 12 positioned about the middle portion of the seal rail, with the cutter tooth inherently having a top portion and a base portion.

Claims 1 and 4 are rejected under 35 U.S.C. 102(b) as being anticipated by PCT Publication WO 02/25065 (figures 5c-5d). Note the tip shroud 5 for use with a turbine bucket 6, comprising a seal rail 1, with the seal rail having a middle portion, and a cutter tooth 12 positioned about the middle portion of the seal rail, with the cutter tooth inherently having a top portion and a base portion.

Claims 1 and 4-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Kreitmeier 5,238,364. Note the tip shroud 11 for use with a turbine bucket 6, comprising a seal rail 13a, with the seal rail having a middle portion, and a cutter tooth 13 positioned about the middle portion of the seal rail, with the cutter tooth inherently having a top portion and a base portion, and an unnumbered built up area adjacent the base portion.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 7-12 and 14 (as far as claim 12 is definite) are rejected under 35 U.S.C. 103(a) as being unpatentable over Urban 6,805,530 (figure 2). Urban discloses a tip shroud for use with a bucket of a turbine substantially as claimed as set forth above, but does not disclose that the seal rail comprises a length of about 4.0 to about 4.25 inches (claim 7), does not disclose that the first top portion and second top portion comprise a height of about 0.52 to about 0.54 inches (claim 8), does not disclose that the first top portion and second top portion comprise a width of about 0.10 to about 0.13 inches (claim 9), does not disclose that the first cutter tooth is positioned about 2.15 to about 2.20 inches from a first end of said seal rail while the second tooth may be about

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2.13 to about 2.18 inches from the first end (claims 10 and 14), does not disclose that the first base portion of the first cutter tooth may extend perpendicular to the seal rail for about 0.56 to about 0.58 inches while the second base portion of the second cutter tooth may extend about 0.45 to about 0.47 inches (claim 11), and does not disclose that the first base portion and the second base portion comprise a width along the direction of said seal rail from about 0.50 to about 0.52 inches to about 0.30 to about 0.32 inches (claim 12).

The recitations of the above seal rail length range (claim 7), the first top portion and second top portion height range (claim 8), the first top portion and second top portion width range (claim 9), the first cutter tooth being positioned about 2.15 to about 2.20 inches from a first end of the seal rail while the second cutter tooth may be about 2.13 to about 2.18 inches from the first end (claims 10 and 14), the recitation that the first base portion of the first cutter tooth may extend perpendicular to the seal rail for about 0.56 to about 0.58 inches while the second base portion of the second cutter tooth may extend about 0.45 to about 0.47 inches (claim 11), and the recitation that the first base portion and the second base portion comprise a width along the direction of the seal rail from about 0.50 to about 0.52 inches to about 0.30 to about 0.32 inches (claim 12) are deemed to be matters of choice in design. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to select specific values for the above dimensions and ranges, since Applicant has not disclosed that the specific dimensions and values are for any particular purpose or solve any stated problem, and it appears that the tip shroud of Urban would perform equally as well with any specific values for the various dimensions and ranges. With regard to the recitation in claim 10, line 4 that the second tooth

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"may be about", the recitation in claim 11, line 2 that the first base portion of the first cutter tooth "may extend", the recitation in claim 11, lines 5-6 that the second base portion of the second cutter tooth "may extend", and the recitation in claim 14, line 4 that the second tooth "may be", these are not considered to be positive recitations and have not been given weight because they do not positively recite the features following the clause "may".

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1 and 4-5 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable all over claim 2 of U.S. Patent No. 6,805,530 in view of either (Guy 3,377,050 or Kreitmeier 5,238,364). Claim 2 of U.S. Patent claims substantially the same subject matter as claims 1 and 4-5 of the instant application, including a seal projecting from a turbine shroud with a cutter tooth carried along the shroud by the seal, and the cutter tooth being substantially medial of the length of the seal, but does not claim that the seal is a seal rail,

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with the cutter tooth comprising a top portion and a base portion, with the cutter tooth being built up adjacent to the base portion.

Guy 3,377,050 (figure 2) shows a tip shroud 11 for use with a turbine bucket 12, comprising a seal rail (unnumbered, the base of element 14 and having passage 16 therein), with the seal rail having a middle portion, and a cutter tooth 14 positioned about the middle portion of the seal rail, with the cutter tooth inherently having a top portion and a base portion, and an unnumbered built up area adjacent the base portion, for the purposes of forming a circumferentially extending seal and attaching the cutter tooth to the seal rail.

Kreitmeier 5,238,364 shows a tip shroud 11 for use with a turbine bucket 6, comprising a seal rail 13a, with the seal rail having a middle portion, and a cutter tooth 13 positioned about the middle portion of the seal rail, with the cutter tooth inherently having a top portion and a base portion, and an unnumbered built up area adjacent the base portion, for the purposes of forming a circumferentially extending seal and attaching the cutter tooth to the seal rail.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to form the seal of claim 2 of U.S. Patent 6,805,530 such that it is a seal rail, as taught by either Guy or Kreitmeier, for the purposes of forming a circumferentially extending seal, and to form the cutter tooth with a top portion and a base portion, with the cutter tooth being built up adjacent to the base portion, as taught by either Guy or Kreitmeier, for the purpose of attaching the cutter tooth to the seal rail. Concerning the additional limitations recited

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in claim 2 of U.S. Patent 6,805,530, such as the airfoil, the seal extending continuously, etc., it would have been further obvious to a person having ordinary skill in the art to eliminate these additional features/requirements, for the purpose of simplifying manufacture and reducing cost.

Allowable Subject Matter

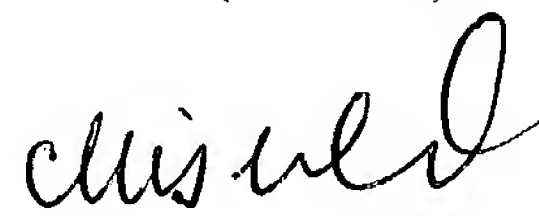
Claim 15 is allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher Verdier whose telephone number is (703)-308-2638. The examiner can normally be reached on Monday-Friday from 10:00-6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward K. Look can be reached on (703) 308-1044. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

C.V.
October 31, 2004


Christopher Verdier
Primary Examiner
Art Unit 3745